OPTUS

TECHNICAL SPECIFICATIONS AND FUTURE SERVICES

The Optus MobileSat® service utilises Optus' second generation B Series satellites to provide clear, digital mobile communications to remote and rural customers. It operates within the L Band frequency spectrum between 1.5 and 1.6 GHz and and is similar in function to other cellular telephones. However, unlike other cellular services, the MobileSat service coverage is not limited to your nearest repeater station but extends Australia-wide and up to 200km out to sea.

The MobileSat service provides basic voice, fax and data transmission, with a discrete number for each service. Details are as follows:

VOICE

Circuit switched, full duplex, high quality digital voice communication between a fixed phone, a cellular telephone and MobileSat telephone is provided by the MobileSat service. MobileSat's digital transmission utilises an error correction mechanism to ensure channel integrity. Callers to a MobileSat phone will access the voice service by dialling the 01451 prefix.

FACSIMILE TRANSMISSION

With an appropriate modem, the MobileSat service will provide an end-to-end fax service for a Group 3 facsimile and will operate at 2400 bps. The facsimile service will typically allow one A4 page to be sent every 90 seconds. Callers to the facsimile service will dial the 01452 facsimile prefix.

DATA CAPACITY

With an appropriate modem, the MobileSat service will provide customers with 2400 bps asynchronous data transmission. Channels are protected by an error correction mechanism to ensure error free transmission, even under heavy shadowing. To access data services, callers will send to the 01453 prefix.

EMERGENCY NUMBERS

10 emergency numbers will be stored in the MobileSat telephone. The numbers will include 000 emergency and Royal Flying Doctor service numbers.

FUTURE VALUE ADDED ENHANCEMENTS

A range of advanced services which will be customised to suit particular customer requirements will also be available in the future. Some of these include:

- **Short Messaging:** Packet switched messaging will allow the transmission of short messages to and from a MobileSat telephone. Applications include telemetry and SCADA (Supervisory Control and Data Acquisition), such as water or pipeline monitoring and security alarm monitoring, where small amounts of data will need to be transferred.

- **Special Networks:** Special networks, based on Closed User Groups, will be available when a customer requires a company-wide communications network that interacts with the MobileSat system, such as a fleet of field vehicles.

- **Positioning Reporting:** With the appropriate Global Positiong System (GPS) receiver, the MobileSat service will be able to transmit GPS data to base to provide information on the location of fleet vehicles.

QUESTIONS AND ANSWERS.

What factors can affect performance?

- Obstructions between the antenna and the satellite. As the MobileSat service operates on line of sight transmission, buildings or geographical conditions can interfere with reception and transmission.

- Antenna alignment. The MobileSat antenna should be mounted vertically to ensure optimum performance. To improve reception, customers should adjust the antenna to give the highest receive signal, as per the user manual.

How can I improve audio quality?

- In situations where a high level of cabin noise reduces the clarity of calls, Optus recommends that the mobile vehicle either reduces speed or pulls over to complete the conversation.

Why is there a delay during a conversation?

- The half second delay is similar to that experienced when making satellite-based international calls and is simply the time delay between the signal being sent, received by the satellite and relayed to the earth station.

What is digital voice?

- The MobileSat service uses digital transmission known for its clarity, in-built security and its error correction capability. However, the voice modulation range is tighter with digital, so tone and pitch may appear flatter.

For futher information on the Optus MobileSat service, please contact your Authorised MobileSat Representative or phone Optus Sales Enquiries on: **1800 555 000**

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Beyond the Call

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